

Claims

1. Method of verifying the authenticity of a security document, the security document including a first at least partially transparent portion and an optical projection element within or superposed with the first at least partially transparent portion, the optical projection element acting to transform a light beam passing from a light beam source through said first at least partially transparent portion into a patterned beam of selected design, the method including the steps of:

positioning the security document such that the light beam is transmitted through the first at least partially transparent portion and the patterned beam is projected onto a viewing surface, and

verifying the presence of a patterned image by the impingement of the patterned beam on the viewing surface.

2. Method according to claim 1, wherein the security document includes an opacifying portion, the method further including the step of:

folding the security document such that the patterned beam is caused to impinge upon the opacifying portion which thus acts as the viewing surface.

3. Method according to claim 2, wherein the opacifying portion of the security document is remote from the first at least partially transparent portion.

4. Method according to any one of the preceding claims, wherein the light beam source is a directional light beam source.

5. Method according to claim 4, wherein the light beam source is a point-of-sale light source device.

6. Method according to claim 5, wherein the point-of-sale light source device is a laser or an LED based device.

7. Method according to claim 6, wherein the light beam source is a bar code scanner.

8. Method according to any one of the preceding claims, wherein the optical projection element acts to generate the patterned beam by diffraction of the light beam transmitted through the security document.

9. Method according to any one of the preceding claims, wherein the security document includes a second at least partially transparent portion, the method further

including the step of:

folding the security document such that part only of the light beam from the light beam source passes firstly through the second at least partially transparent portion before being transmitted through said first at least partially transparent portion, said second at least partially transparent portion thus acting as a pseudo point light source.

10. Method according to any one of the preceding claims, wherein the security document includes an optical image or device, applied to the opacifying portion, which interacts with the patterned beam impinging on the opacifying portion to create a visual security effect, the method further including the step of:

verifying the presence of the visual security effect.

11. Method according to claim 10, wherein optical image or device is a printed image substantially corresponding to or complementing the patterned image projected onto the viewing surface.

12. Method according to either of claims 11 or 12, wherein the optical image or device is a reflective foil OVD or other like device.

13. Security document including a first at least partially transparent portion and an optical projection element within or superposed with the first at least partially transparent portion, the optical projection element acting to transform a light beam passing from a light beam source through the first at least partially transparent portion into a patterned beam of selected design.

14. Security document according to claim 13, and further including an opacifying portion for impingement of the patterned beam thereupon.

15. Security document according to claim 14, wherein the opacifying portion and the first at least partially transparent portion are remote from each other.

16. Security document according to anyone of claims 13 to 15, wherein the optical projection element acts to generate the patterned beam by diffraction of the light beam passing through the security document.

17. Security document according to any one of claims 13 to 16, and including an at least partially transparent substrate having first and second opposing faces, and an opacifying layer applied to at least one of the faces, the first at least partially

transparent portion being applied to leave an uncoated area on the at least one surface.

18. Security document according to any one of claims 13 to 17, and further including a second at least partially transparent portion for transmitting part only of the light beam from the light beam source, the second at least partially transparent portion thus acting as a pseudo point light source.

19. Security document according to any one of claims 13 to 18, wherein the security document includes an optical image or device, applied to the opacifying portion, which interacts with the patterned beam impinging on the opacifying portion to create a visual security effect.

20. Method of producing a security document as described above, including the steps of:

- forming an at least partially transparent substrate having first and second opposing surfaces, coating at least one face of the substrate within an opacifying layer, the opacifying layer being applied to leave a first uncoated area on the at least one surface,

conveying the optical projection element into position over the first uncoated area, and

transferring the optical projection element onto the substrate.

21. Method according to claim 20, wherein the optical projection element is conveyed into position over the first uncoated area by and on a transfer foil.

22. Method according to claim 20, wherein the optical projection element is transferred from the foil onto the substrate by hot stamping.

23. Method according to any one of claims 20 to 22, wherein at least one optically variable device is conveyed into position over the first uncoated area and transferred onto the substrate together with the optical projection element.

24. Method according to claim 20, wherein the optical projection element may be transferred onto or into the substrate by embossing.

25. Method according to any of claims 20 to 24, wherein the opacifying layer is applied to also leave a second uncoated area on the at least one surface, the second uncoated area acting as a pseudo point light source when a light beam passes

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through the security document in the second uncoated area.

26. Method according to any one of claims 20 to 25, and further including the step of:

applying an optical image or device to an opacifying portion of said opacifying layer.

27. Method according to claim 26, wherein the optical image or device is applied to the opacifying portion by printing.

28. Method according to claim 26, wherein the optical image or device is a reflective foil OVD or like device.

29. Method of verifying the authenticity of a security document, the security document including a first at least partially transparent portion, and an optical projection element within or superposed with the first at least partially transparent portion, the optical projection element acting to transform a light beam passing from a light beam source through said first at least partially transparent portion into a patterned beam of selected design, the method involving the steps of:

positioning the security document so as to enable a user to look at the light beam source through the first at least partially transparent portion, and verifying the presence of an image corresponding to the patterned beam in the user's field of vision.

20 30. Method according to claim 29, wherein the light beam source produces substantially collimated light.

31. Method according to claim 30, wherein the collimated light is white light.

32. Method according to any one of claims 29 to 31, wherein the light beam source is located at a sufficiently remote distance from the security document that the light beam passing through the optical projection element is substantially collimated light.

33. Method according to claim 29, wherein the light beam source produces substantially non-collimated light, the method including the step of:

30 placing a screen having a window between the light beam source and the optical projection element, such that the light beam from the light beam source passing through the window is substantially collimated light.

35. Method according to either of claims 33 or 34, wherein the window is constituted by a second at least partially transparent portion of the security document.

37. Security document including a first at least partially transparent portion, an optical projection element within or superposed with the first at least partially transparent portion, the optical projection element acting to transform a light beam passing from a light beam source through said first at least partially transparent portion into a patterned beam of selected design, and a second at least partially transparent portion located remotely from the first at least partially transparent portion, the security document being foldable such that the second at least partially transparent portion is able to be placed between the light beam source and the optical projection element in order that the light beam from the light beam source passing through the second at least partially transparent portion is substantially collimated light.

1990-1991 1992-1993 1994-1995 1996-1997 1998-1999 2000-2001 2002-2003 2004-2005 2006-2007 2008-2009 2010-2011 2012-2013 2014-2015 2016-2017 2018-2019 2020-2021 2022-2023 2024-2025 2026-2027 2028-2029 2030-2031 2032-2033 2034-2035 2036-2037 2038-2039 2040-2041 2042-2043 2044-2045 2046-2047 2048-2049 2050-2051 2052-2053 2054-2055 2056-2057 2058-2059 2060-2061 2062-2063 2064-2065 2066-2067 2068-2069 2070-2071 2072-2073 2074-2075 2076-2077 2078-2079 2080-2081 2082-2083 2084-2085 2086-2087 2088-2089 2090-2091 2092-2093 2094-2095 2096-2097 2098-2099 2100-2101 2102-2103 2104-2105 2106-2107 2108-2109 2110-2111 2112-2113 2114-2115 2116-2117 2118-2119 2120-2121 2122-2123 2124-2125 2126-2127 2128-2129 2130-2131 2132-2133 2134-2135 2136-2137 2138-2139 2140-2141 2142-2143 2144-2145 2146-2147 2148-2149 2150-2151 2152-2153 2154-2155 2156-2157 2158-2159 2160-2161 2162-2163 2164-2165 2166-2167 2168-2169 2170-2171 2172-2173 2174-2175 2176-2177 2178-2179 2180-2181 2182-2183 2184-2185 2186-2187 2188-2189 2190-2191 2192-2193 2194-2195 2196-2197 2198-2199 2200-2201 2202-2203 2204-2205 2206-2207 2208-2209 2210-2211 2212-2213 2214-2215 2216-2217 2218-2219 2220-2221 2222-2223 2224-2225 2226-2227 2228-2229 2230-2231 2232-2233 2234-2235 2236-2237 2238-2239 2240-2241 2242-2243 2244-2245 2246-2247 2248-2249 2250-2251 2252-2253 2254-2255 2256-2257 2258-2259 2260-2261 2262-2263 2264-2265 2266-2267 2268-2269 2270-2271 2272-2273 2274-2275 2276-2277 2278-2279 2280-2281 2282-2283 2284-2285 2286-2287 2288-2289 2290-2291 2292-2293 2294-2295 2296-2297 2298-2299 2300-2301 2302-2303 2304-2305 2306-2307 2308-2309 2310-2311 2312-2313 2314-2315 2316-2317 2318-2319 2320-2321 2322-2323 2324-2325 2326-2327 2328-2329 2330-2331 2332-2333 2334-2335 2336-2337 2338-2339 2340-2341 2342-2343 2344-2345 2346-2347 2348-2349 2350-2351 2352-2353 2354-2355 2356-2357 2358-2359 2360-2361 2362-2363 2364-2365 2366-2367 2368-2369 2370-2371 2372-2373 2374-2375 2376-2377 2378-2379 2380-2381 2382-2383 2384-2385 2386-2387 2388-2389 2390-2391 2392-2393 2394-2395 2396-2397 2398-2399 2400-2401 2402-2403 2404-2405 2406-2407 2408-2409 2410-2411 2412-2413 2414-2415 2416-2417 2418-2419 2420-2421 2422-2423 2424-2425 2426-2427 2428-2429 2430-2431 2432-2433 2434-2435 2436-2437 2438-2439 2440-2441 2442-2443 2444-2445 2446-2447 2448-2449 2450-2451 2452-2453 2454-2455 2456-2457 2458-2459 2460-2461 2462-2463 2464-2465 2466-2467 2468-2469 2470-2471 2472-2473 2474-2475 2476-2477 2478-2479 2480-2481 2482-2483 2484-2485 2486-2487 2488-2489 2490-2491 2492-2493 2494-2495 2496-2497 2498-2499 2500-2501 2502-2503 2504-2505 2506-2507 2508-2509 2510-2511 2512-2513 2514-2515 2516-2517 2518-2519 2520-2521 2522-2523 2524-2525 2526-2527 2528-2529 2530-2531 2532-2533 2534-2535 2536-2537 2538-2539 2540-2541 2542-2543 2544-2545 2546-2547 2548-2549 2550-2551 2552-2553 2554-2555 2556-2557 2558-2559 2560-2561 2562-2563 2564-2565 2566-2567 2568-2569 2570-2571 25	
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